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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,319	10/01/2003	Arthur I. Watson	68.0415	6502
35204	7590	05/04/2005	EXAMINER	
SCHLUMBERGER RESERVOIR COMPLETIONS			KERSHTEYN, IGOR	
14910 AIRLINE ROAD			ART UNIT	
P.O. BOX 1590			PAPER NUMBER	
ROSHARON, TX 77583-1590			3745	

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/676,319

Applicant(s)

WATSON ET AL.

Examiner

Igor Kershteyn

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7, 8, 10-12, 14-18, 20-22, 24, 26-29 and 32-39 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 9, 13, 19, 23, 25, 30 and 31 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/01/2003</u> . | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 7, 8, 10, 18, 32-34, 36-39 are rejected under 35 U.S.C. 102(b) as being anticipated by Deters (3,265,001).

In figures 1-5, Deters teaches a pumping system, comprising: a submersible, centrifugal pump 20 having an outer housing 24, a shaft 22, a plurality of diffusers 54 mounted within the outer housing 24 and a plurality of impellers 28 mounted about the shaft 25, each impeller 28 having a short hub 38 formed of a moldable plastic and a sleeve 122 axially adjacent the short hub 38.

**Note.** The interpretation of the term “short hub” is solely based on the definition given by the Applicant in the paragraph [0017] of the specification.

Claims 18, 20, and 32-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Ekey (3,779,668).

In figures 1 and 2, Ekey teaches a pumping system, comprising: a submersible, centrifugal pump having an outer housing 11, a shaft 17, a plurality of diffusers 14 mounted within the outer housing 11 and a plurality of impellers 15 mounted about the

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shaft 17, each diffuser 14 being formed of a moldable material and a reinforcement member 35 molded into the moldable material.

Claims 1, 2, 7, 8, 18, 21, 22, 24, 26-29, and 32-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Chien et al. (6,439,835).

In figures 4 and 5, Chien et al. teach a pumping system, comprising: a submersible, centrifugal pump having an outer housing 61, a shaft 5, a plurality of diffusers 8 mounted within the outer housing 61 and a plurality of impellers 7 mounted about the shaft 5, each impeller having a short hub 72 formed of a moldable plastic and a sleeve 74 axially adjacent the short hub 72.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11, 12, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deters (3,265, 001) in view of Du et al. (6,688,860).

Deters, in figures 1-5, teaches a submersible pumping system, comprising: a motor (not shown); and a submersible pump 20 with a plurality of stages, each stage having an impeller 28 with a plurality of vanes 44, formed of a moldable plastic, and a

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sleeve 122, the sleeve being 122 formed of a material having greater wear resistance than the moldable plastic, wherein the sleeve 122 is a metal sleeve.

Deters doesn't teach the submersible motor and a motor protector.

Du et al. in figure 1, teach a submersible pump having a motor 14 and a motor protector 16.

Since Deters and Du et al. are analogous art because they are from the same field of endeavor, that is the submersible pump art, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the pump of Deters with the submersible motor and motor protector as taught by Du et al. for the purpose of driving the submersible pump and protecting the motor from corrosive environment.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Deters (3,265,001) in view of Zelder (5,692,880).

Deters teaches all the claimed subject matter except that he doesn't teach the reinforcement member is a metal ring having surface features to grip the moldable material.

Zelder in figure 2, teaches a working member for a submersible pump 1, the working member having a reinforcement member 4, which is a metal ring having surface features to grip the moldable material.

Since Deters and Zelder are analogous art because they are from the same field of endeavor, that is the submersible pump art, it would have been obvious at the time

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the invention was made to a person having ordinary skill in the art to modify the reinforcement member of Deters with the surface features to grip the moldable material as taught by Zelder for the purpose of improving a structural integrity of the reinforcement member and the moldable material.

Claims 11, 12, 15, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ekey (3,779,668) in view of Du et al. (6,688,860).

Ekey, in figures 1 and 2, teaches a submersible pumping system, comprising: a motor (not shown); and a submersible pump with a plurality of stages 12, each stage having an impeller 15 with a plurality of vanes 20, formed of a moldable plastic, and a sleeve 35, the sleeve being 35 formed of a material having greater wear resistance than the moldable plastic, wherein the sleeve 35 is a metal sleeve.

Ekey doesn't teach the submersible motor and a motor protector.

Du et al. in figure 1, teach a submersible pump having a motor 14 and a motor protector 16.

Since Ekey and Du et al. are analogous art because they are from the same field of endeavor, that is the submersible pump art, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the pump of Ekey with the submersible motor and motor protector as taught by Du et al. for the purpose of driving the submersible pump and protecting the motor from corrosive environment.

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***Allowable Subject Matter***

Claims 4-6, 9, 13, 19, 23, 25, 30, and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Prior Art***

Prior art made of record but not relied upon is considered pertinent to Applicant's disclosure and consist of four patents.

McConaghy (3,158,295) is cited to show a submersible pump having a diffuser an impeller, and a reinforcement member but currently is not used for the purpose of prior art rejections.

Gordon (3,730,641) is cited to show a submersible pump having a diffuser an impeller, and a reinforcement member but currently is not used for the purpose of prior art rejections.

Rabinovich et al. (6,368,056) is cited to show a submersible pump having a diffuser an impeller, and a sleeve but currently is not used for the purpose of prior art rejections.

Pai (6,481,961) is cited to show a submersible pump having a diffuser an impeller, and a reinforcement member but currently is not used for the purpose of prior art rejections.

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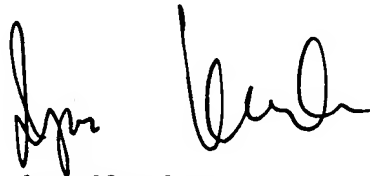
***Contact information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Kershteyn whose telephone number is **(571)272-4817**. The examiner can be reached on Monday-Friday from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look, can be reached on **(571)272-4820**. The fax number is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308 0861.

IK  
April 26, 2005

A handwritten signature in black ink, appearing to read 'Igor Kershteyn', is written over a horizontal line.

**Igor Kershteyn  
Patent examiner.  
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